

King Fahd University of Petroleum & Minerals
College of Environmental Design
Construction Engineering & Management Department
CEM 511
Construction Estimating
Fall 2005/2006



Work breakdown structure

- Organizing the work of the project to identify work items.
- Masterformat offers a standard WBS of projects.
- A basis for cost estimating and accounting.



Masterformat

- A system of numbers and titles for organizing construction information into a regular, standard order or sequence.
- Produced jointly by the U.S.A Construction Specifications Institute (CSI) and Construction Specifications Canada (CSC).



Masterformat

- A standard method of organizing work in Construction projects.
- A standard method of coding cost of work items in Construction projects.
- Basis for many specifications.
- Basis for Means building construction cost data.



Masterformat

- Specification titles and numbers are organized into 16 basic groupings “divisions”
- Each division is identified by a fixed number and title.
- Divisions are the basic framework of Masterformat.



Masterformat divisions

Division 1	01000	General requirements
Division 2	02000	Sitework
Division 3	03000	Concrete
Division 4	04000	Masonry
Division 5	05000	Metals
Division 6	06000	Wood an plastics
Division 7	07000	Thermal and moisture protection
Division 8	08000	Doors and windows
Division 9	09000	Finishes
Division 10	10000	Specialties
Division 11	11000	Equipment
Division 12	12000	Furnishings
Division 13	13000	Special construction
Division 14	14000	Conveying systems
Division 15	15000	Mechanical
Division 16	16000	Electrical



Masterformat

- Within each division there are numbered sections.
- Each section covers one portion of the total work or requirements.
- Masterformat provides a standard system for numbering and titling these sections.
- The first two digits of the section number are the same as the division number.



Masterformat division 3--Concrete

03100	Concrete formwork
03200	Concrete reinforcement
03250	Concrete accessories
03300	Cast-in-place concrete
03370	Concrete curing
03400	Precast concrete
03500	Cementitious decks and toppings
03600	Grout
03700	Concrete restoration and cleaning
03800	Mass concrete



Masterformat

- **Three levels of detail are specified for each section-broadscope, mediumscape, and narrowscope.**
- **Broadscope titles are for broad categories of work and provide the widest latitude in describing a unit of work.**
- **Mediumscope titles cover units of work of more limited scope.**



Masterformat

- Masterformat provides five digits number only for the broadscope and mediumscope section titles.
- Narrowscope titles are for use in covering extremely limited and very specific elements of work.



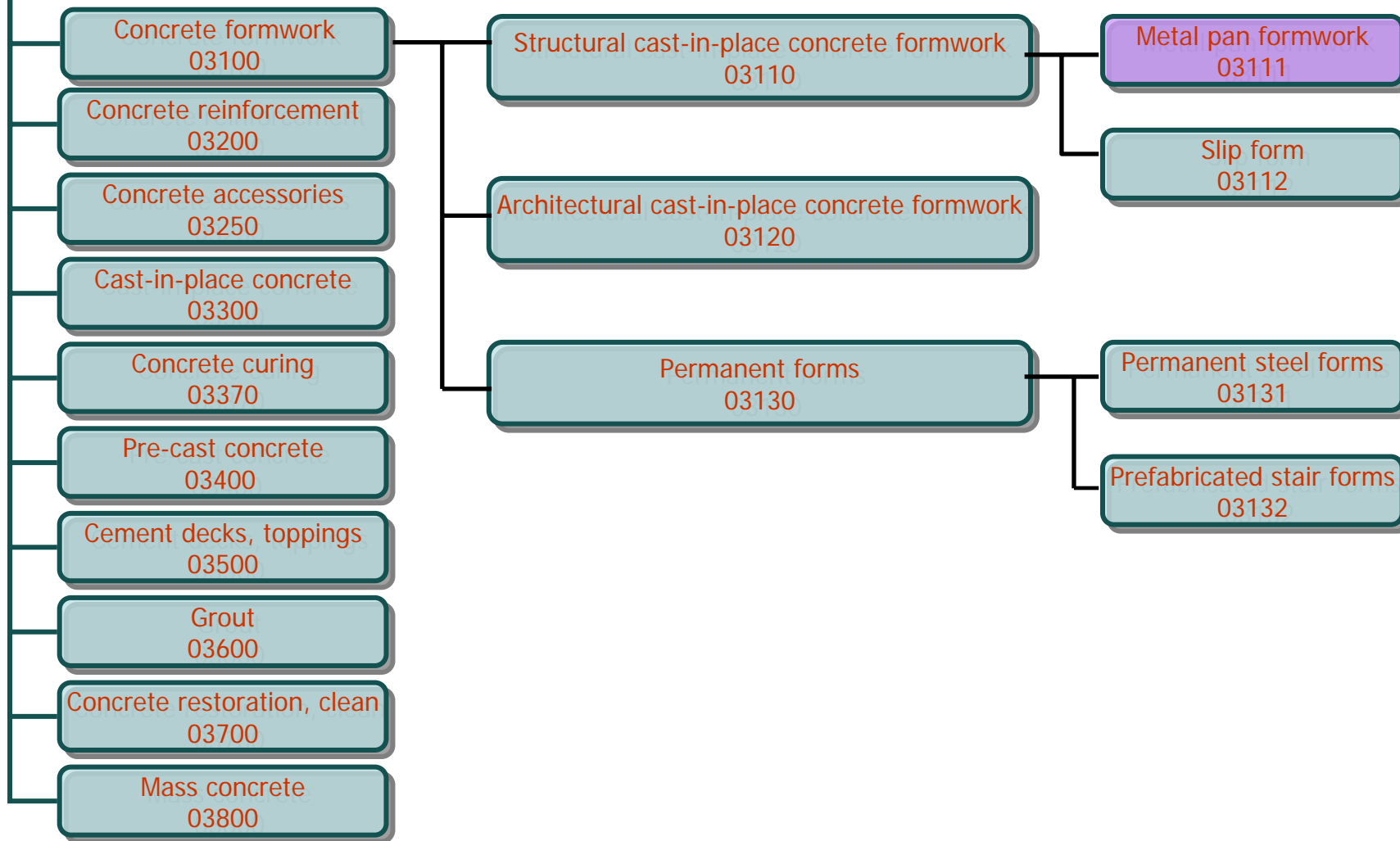
Masterformat

- Unused numbers are available between mediumscope numbers to permit assignment of numbers to selected narrowscope titles.
- A general description of the coverage of each broadscope section is provided opposite the listing of titles.

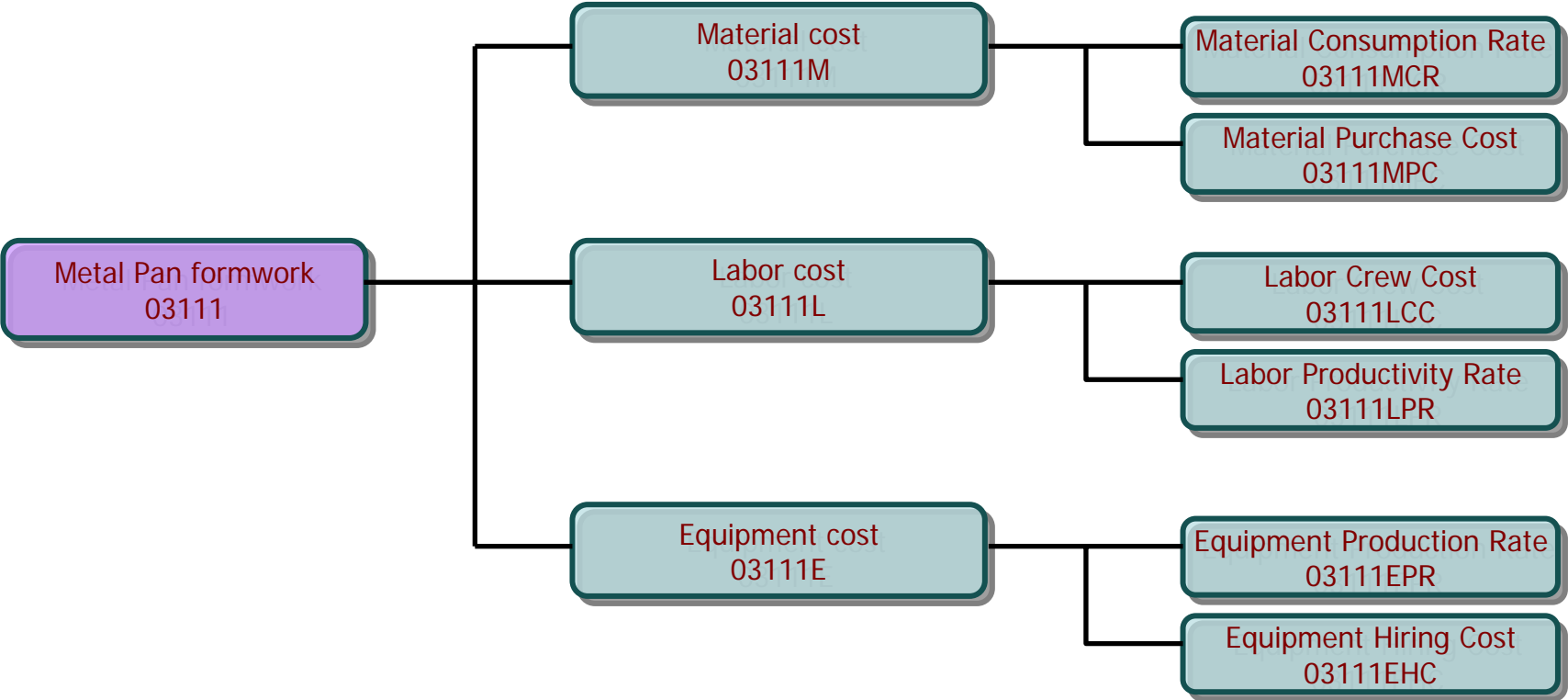


Concrete
03

WBS of concrete



Cost elements of Metal pan formwork



Masterformat

- The broadscope explanation together with the list of associated mediumslope and narrowscope titles provide an understading of the scope of the broadscope section.
- In addition to a format for specifications, It incorporates a complete organizational format for project manuals by including bidding requirements, contract forms, and conditions of the contract.

